

The substitute specification filed on 12-14-09 has been entered.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mark Bicks on 3-24-10.

12. (currently amended) A filter element, comprising:

a filter medium with opposite first and second end areas surrounding a longitudinal axis;

first and second end caps coupled to said first and second end areas, respectively, by cement beds forming an insulating layer between each said end cap and the respective end area, said end caps having major planes extending generally perpendicularly to said longitudinal axis;

a support tube supporting said filter medium on one side of said filter medium;  
and

contact pins on at least said first end cap for dissipating electrostatic charges occurring in filter element operation, said contact pins penetrating the respective cement bed making dissipative contact with said filter medium, each of said contact pins having opposite ends end portions with one end portion penetrating the respective cement bed

and fixedly connected to said first end cap separately from the respective cement bead and the other end portion being a free end portion extending vertically generally parallel to said longitudinal axis from said first end cap.

The first, second, and third paragraphs of page 6 of the specification have been amended as follows:

-- The filter element according to the exemplary embodiment of the present invention has a filter medium 10 extending between the two, first and second end caps 12, 14 and surrounding a longitudinal axis with each end cap extending generally perpendicularly to the longitudinal axis and connected to an assignable first or second end area 16, 18 of the filter medium 10. The filter medium is otherwise supported on its inner peripheral side on a support tube 20. As viewed in FIG. 1, the lower or first end cap 14 has a contact-making means or contact maker 22 for dissipating an electrostatic charge occurring in operation of the filter element in particular.

The contact-making means 22 includes individual conductive contact elements, in particular in the form of individual contact pins 24 extending through a cement bed 26 forming a type of insulating layer between the end cap 14 and the accommodated end region 18 of the filter medium 10 to make dissipative contact with the filter medium 10. The contact pins 24 penetrate the cement bed 26, and stand vertically upright on the respective end cap 14 in the area of pin other free ends. This configuration can be provided fundamentally on the upper and lower end caps 14, 16. Each of the contact pins have opposite end portions with one end portion penetrating the respective cement

bed and being fixed to the first end cap and the other end portion being a free end portion and extending generally parallel to a longitudinal axis of the filter element from the first end cap. Placement on only one end cap is adequate to ensure dissipation by this end cap 14 with the ground points of the housing (not shown) in which the filter element can be held with the formation of a filter device.

As is to be seen in particular from the longitudinal section of FIG. 2, the filter medium 10 can be built up as a multilayer filter mat, for example, with six layers. The layers follow each other in succession, and have the following: an outer support, a protective nonwoven layer, a prefilter layer, a main filter layer, a support nonwoven layer, and an inner support. For the outer support, a polyamide lattice or a polyester fabric is possible. The inner support of the filter mat can be supported on the outer periphery of the fluid-permeable support tube 20 or can be formed by this support tube 20 itself. The filter mat can be reinforced on one side with fabric materials of plastic or metal.--.

The first full paragraph of page 8 of the specification has been amended as follows:

-- The illustrated filter medium 10 has a cylindrical filter mat. The possibility also exists of making the individual filter mat layers pleated along a cylindrical periphery to increase the effective filter surface. A filter mat structure is also possible as is indicated in DE 102 50 969 A1 published at a later date. When the filter medium 10 is built up with its individual layers, it should preferably be made of correspondingly dissipative plastic

materials. As is furthermore to be seen from FIG. 1 in particular, the respective end cap 12, 14 to the inside and outside is provided with one projecting annular surface 28 each. Surfaces 28 integrate the cement bed 26 therebetween. Between the two annular surfaces 28 of the lower end cap 14, the individual contact pins 24 extend in a parallel longitudinal alignment to the longitudinal axis 30 of the filter element. The conductive contact elements or contact pins 24 can be made of metal. Preferably, they are made from a conductive plastic material which can be injected jointly with the end cap 14 in one working cycle such that the contact pin-end cap connection is separate from the cement bed and the filter medium is formed for fixing the first end of each contact pin to the first end cap. --.

The following is an examiner's statement of reasons for allowance: Quaas et al and Koch et al are considered the closest prior art, however, Quaas et al fail to teach or suggest the limitation of one end of the contact pin being fixedly connected to the first end cap separately from the respective cement bead as recited in instant claim 12, and Koch et al fail to teach or suggest the other end portion of the contact pin being a free end portion extending generally parallel to the longitudinal axis of the filter as recited in instant claim 12.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O. Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew O Savage/  
Primary Examiner  
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